



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log R-590

Date: December 22, 1987

In reply refer to: R-87-71

Honorable James H. Burnley IV
Secretary
U.S. Department of Transportation
Washington, D.C. 20590

About 8 a.m., on November 12, 1987, Massachusetts Bay Transportation Authority (MBTA) train 8114 collided with the rear end of standing MBTA train 8110 on track 2 at the Back Bay Station in Boston, Massachusetts, injuring 45 passengers and 8 crewmembers. Both commuter trains were operated by Amtrak under contract with MBTA.

The engineer of train 8114 reported that the last signal he passed before the collision displayed an "approach" indication. According to applicable operating rules, an "approach" indication allows the engineer to proceed "prepared to stop at next signal." Before reaching the next signal his train collided with the rear of train 8110. Postaccident signal tests determined that under certain track occupancy conditions, the eastbound signal on track 2 (signal 2262-2) displayed a more permissive indication than should have been displayed.

The signal system was placed in service on October 5, 1987, after acceptance testing, and approval by the MBTA, Amtrak, and the Federal Railroad Administration. Following the accident, Amtrak made electrical circuitry wiring changes at the accident location and at 11 other locations on the MBTA to prevent more permissive signal indications being displayed. The system is being reevaluated and retested, and additional changes may or may not be necessary.

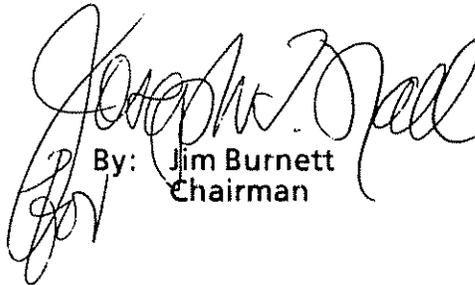
The Safety Board's investigation of the accident is continuing. However, the Safety Board is concerned that similar electrical circuitry conditions may exist on other railroad and rail rapid transit systems nationwide. If allowed to continue, such circuitry conditions could result in the display of a more permissive signal indication than should be permitted by the existing track occupancy. The Safety Board has been unable to determine how many such signal systems, if any, are installed at other locations in the United States.

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Therefore, the National Transportation Safety Board recommends that the U.S. Department of Transportation:

Determine if there are signal systems in use on the nation's rail and rail rapid transit systems designed and constructed to similar specifications as signal 2262-2 on the Massachusetts Bay Transportation Authority signal system, inspect any similar signal systems found for defective electrical circuitry conditions, and remove these signal systems from service until the defective conditions are corrected. (Class I, Urgent Action) (R-87-71)

BURNETT, Chairman, and NALL and KOLSTAD, Members, concurred in this recommendation. GOLDMAN, Vice Chairman, did not concur. LAUBER, Member, did not participate.



By: Jim Burnett
Chairman